UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
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PUBLIC MEETING ON PACKAGE PERFORMANCE
STUDY AND NUREG/CR-6672

Tropicana Hotel
3801 Las Vegas Blvd.
Hawiian Rooms I and II
Las Vegas, Nevada
Tuesday, August 15, 2000

The meeting commenced, pursuant to notice, at 7:05 p.m.

PARTICIPANTS:
CHIP CAMERON
DR. SUSAN SHANKMAN
JOHN COOK
JACKIE GOFF
JOHN HADDER
BILL LEE
BILL LAKE
KEVIN BLACKWELL
KEN SORENSON
PETE DIRTMAAT
ANN BEIER
JERRY SPRINGER
KALYNDA TILGERS
WILLY FRAGOSA
ROB LEWIS
PAT HAGGERTY
TONY HECHANOVA

P R O C E E D I N G S

[7:05 p.m.]

MR. CAMERON: Welcome to the NRC's public meeting on spent fuel transportation. We're going to do something a little bit different tonight than we had planned.

For all of your information, we are going to be in Pahrump tomorrow night to do a public meeting at 7:00 and the purpose of the public meeting is to provide information to the public on what the NRC's responsibilities are in terms of radioactive material transportation and also to talk about a study that we did on spent fuel transportation risk and to talk a little bit about a new study that we're doing.

Everybody that's here basically was here this afternoon and so we thought that instead of going through some presentations, which, albeit, were going to be abbreviated anyway from this afternoon's presentation, since you all heard the background, we thought that maybe we could provide some more time and opportunity for people to discuss issues with the NRC staff today.

We have asked the staff and the Sandia consultants to come out here in the audience, so we could be more or less one group.

Does anybody have an objection to that? Would you like to be primed on the material again?

All right. Good. Well, you heard, there was really three areas of presentation today and one was NRC responsibilities for radioactive transportation. I mean, within that category is what are other agencies' responsibilities for transportation and we do have people here from Department of Transportation, various offices within Department of Transportation, and also the Department of Energy.

So one area we could explore would be to make sure that people understand what the different responsibilities are of the agencies.

The second category of issues were presented by the spent fuel transportation risk study, NUREG-7762 -- 7677 -- no, okay. But you know which one I'm talking about. So there's a bunch of issues there.

And the study that is ongoing, the Sandia issues study, has a lot of recommendations in it that people may want to comment on.

I guess just to keep us a little bit organized, does anybody have questions or comments on the jurisdictional breakdown of NRC, DOE, and DOT responsibilities in the area? Most of you are pretty familiar with this.

I guess I would just open it up for any questions or comments and we can see where that's going to go. I'm

going to go right here and right here, and if you could just give your name and affiliation, if appropriate, so that we're keeping a transcript.

MR. DIRKMAAT: I sat through most of the day. My name is Pete Dirkmaat, I'm from the DOE Idaho Operations Office, and have quite a few casks and other things under license with the DOE, with the NRC.

I've sat through lots of public meetings. We had 24 of them, if I remember right, for the spent fuel EIS that DOE did in '95, I sat through most of those. And I don't know how the question was resolved before dinnertime, but about full-sized cask testing or not doing that.

And I'm of the opinion that the only way I can answer the public questions that I get in the public meetings is to talk about full-scale testing. Not every single cask in the license arena, but at least one that's current, so that we can tell people, yes, the codes work and we're good enough code and modeler people that we can do simulated nuclear weapons on computer. We certainly ought to be able to do casks on computers, cask accidents.

But the proof is in the pudding and I think the public really wants to see the results of something like that. And I know it's very expensive, but I don't know how else to answer the question and put a lot of people's fears to rest.

Now, I was involved with the foreign research reactor shipment that came from the Far East and went through California and Nevada. That is what triggered some of the comments from the various groups, as we tried to get through Nevada, as a matter fact.

And we had to go to all these meetings and try to explain to them why a third-scale cask was okay, done 20 plus years ago, it is tough and I think that we ought to really think about that.

So I guess my recommendation is we do it right, we do it smart, we do it right, and try to get to the root of the public's concern.

MR. CAMERON: That's great. Why don't we -- if you could -- if you do have a card. Maybe it would be worth it to just -- I think you heard Jon Hadder today and others talk about the desirability of testing. Maybe it would be worthwhile to see if anybody who didn't have a chance to talk today on the desirability or undesirability of testing, maybe we could follow that thread a little bit.

And I don't know if everybody -- does everybody understand the one-third scale testing that people talk about?

At any rate, someone may want to clarify that, from our guys, at some point, but you -- why don't we go to you and if you have any comments on the full-scale testing,

we'd appreciate that, also.

MS. BEIER: Good evening. My name is Ann Beier and I'm the Associate Director at Western States Legal Foundation, which is actually based in Oakland, California, and we are one of those organizations that opposed the return of the foreign research reactor spent nuclear fuel.

And as this man testified, it was enormously controversial and there was tremendous lack of public confidence in the plan and in the cask, not just from peace and environmental organizations from California to Nevada, but municipalities, the California Coastal Commission. I saw Bob Alcock many times at these meetings, at Conversation Development Commission meetings, having to defend the casks.

So I can tell you, in terms of the performance package study, what would be of particular interest to the Bay Area is -- which wasn't included -- would be maritime accident scenarios. The Concorde Naval Weapons Station receives these spent fuel shipments and they come through the San Francisco Bay under the Golden Gate Bridge, through the narrow straits, where there is a dense concentration of petrochemical industries and it's a very treacherous maritime route to follow.

So we would encourage you to look at things like maritime fires tend to burn longer than rail or cask fires. The submersion tests could be deeper and longer. In the

Bay, it can get to be as much as 300 feet deep.

So we would support more full-scale physical testing under more accident scenarios, which would be more inclusive of other accident scenarios.

MR. CAMERON: Thanks, Ann. I'm sorry that I didn't recognize you from today, because I would love to have had you up at the table with us.

Do you want to say anything about Western Communities Against Nuclear Transportation, just tell people a little bit about that?

MS. BEIER: Sure. Western Communities Against Nuclear Transportation formed about three years ago in response to the foreign research reactor spent fuel shipments and as I alluded to earlier, it included peace, environmental and tribal organizations throughout California, Nevada and Utah.

The shipment route from Concorde to INEEL, or the Idaho National Engineering and Environmental Laboratory.

So it included groups like Citizen Alert and Grandmothers for Peace in Sacramento and -- can you remember some others, John? Downwinders, Tri-Valley Cares, West County Toxic Coalition, which is in Richmond, Margie Bowcreek from Skull Valley Goshutes.

So we formed an alliance to try to learn as much as we could and inform the public about this Department of

Energy program. I don't know what else to say.

MR. CAMERON: I think that's a good introduction for a question I would have for NRC and Sandia. The type of fuel shipments that Ann and her colleagues are worried about may not fall or does not fall under NRC jurisdiction.

But this -- I'll ask it as a question. Does the cask study, the package performance study that we're doing, will that study be applicable to the types of shipments that Ann has been talking about?

MR. SPRINGER: Jerry Springer, from Sandia. We did part of the package -- I mean, of the foreign research reactor study. A cask doesn't know what causes the forces that it experiences, so it doesn't matter whether it's a maritime shipment or a truck shipment or a rail shipment.

If you can properly calculate for a set of forces how the cask responds, then if you get to that set of forces in a maritime accident, the cask will respond that way.

So that in point of fact, if you can do a set of studies that show how the cask responds to a range of forces, you'll get the answer you're looking for.

MR. CAMERON: We're going to go to Ken.

MR. SORENSON: Ken Sorenson, from Sandia. Just to add on to what Jerry said. We also did some fairly in-depth analyses of shipment by sea of radioactive materials and a lot of the concerns were what happens if you have ship

collisions and you have 1.5 billion foot pounds of kinetic energy going into that cask, and that was an issue we felt we needed to address and see how the energy actually was dissipated and as Jerry said, what we found was that those type of collisions and accidents were enveloped by the regulations and certainly by the analysis that we've done in 6672.

MR. CAMERON: We're going to go over to Kalynda, but would the study that Sandia is doing, would be as applicable to the casks that are being used to ship --

MR. SORENSON: There is a report on the study of the maritime transport accidents that we conducted that could be made available to you, if you like, we can send it out to you.

MR. CAMERON: Okay. Let's make sure we get that. Kevin?

MR. BLACKWELL: I just wanted to add to that, and I'm speaking from my other hat in the Coast Guard, I'm still in the Reserves. I believe the Coast Guard has looked at that aspect, as well, and this goes to the probability of a collision with a vessel carrying this, because the Coast Guard has very strict security and safety zones that are set up when these vessels come in and a ship is not going to sneak into that security zone to have a collision, and these are done from the sea buoy on in.

Now, on the high seas, if you're concerned, that's a different matter, I guess. But in coastal waters and restricted navigable water ways, the Coast Guard has a very extensive program on certain types of vessels and certain types of cargo vessels are carrying, as to what they're going to do as far as moving security in safety zones.

MR. CAMERON: Do you have a follow-up right now, before we go to Kalynda? Let's get you on the record here.

MS. BEIER: Not just possible accidents, but both in the EIS and I actually heard a Lieutenant Commander from the Coast Guard say if a cask were to fall into the ocean, it would be difficult to retrieve. It didn't say impossible, but, I mean, that's -- or even the Bay, certain parts.

MR. CAMERON: Okay. Kevin, even though we're informal, we still need to get you on the record.

MR. BLACKWELL: My point was that in restricted navigable water ways, with shipments of spent nuclear fuel, they are not going to come in unescorted. So what could happen that would cause that cask to possibly end up at the bottom of the San Francisco Bay is very much more improbable as far as a collision with another ship and anything happening on that ship. You're going to have people that are there to deal with if a fire breaks out, the people are already there on the scene is my point.

So it's a little different scenario as to what -- the probability of that happening in a restricted navigable water way.

I admit, on the open seas, in the crossing, that's a different matter.

MR. CAMERON: Okay. Let's go to Kalynda.

MS. TILGES: I'm Kalynda Tilges, Nuclear Issues Coordinator for Citizen Alert here in Las Vegas. I speak to you from that perspective, but I also speak to you from being a mother and a person of the public. I've lived in Las Vegas since '79. I've raised three children and a grandchild here. So I have two perspectives on this.

I think I understand a little bit more of the technical than maybe a large number of the public, because it is my job as well, but I do come from a public perspective and I think that's mostly how -- the comments I want to say. There's going to be a few, because I have to leave in a few minutes. I will be at the meeting at Pahrump tomorrow night.

I fully support full-scale testing and not in ridiculous scenarios, not necessarily things that can't possibly happen, though I wouldn't mind that, too, just to show more integrity. But for the public to really -- do you want public support or do you want public buy-in?

If you want buy-in, you can feed them anything.

Market it to us. But we don't want to be marketed to. We want to know the truth. We want you to do the things the right way, all the way, and the idea, just the very idea that it would be based on whether you would do the right thing for the public, the American public, your families, as well as mine, and base that on something as base as money, not only do I find insulting, it's unethical and it's immoral. There should be no price tag on the safety of our families and the American public.

It shouldn't happen. Full-scale testing should happen on casks that are going to be used. If you're going to use casks that are obsolete, why are they obsolete? Don't make regulations, don't make rules, and then -- you're doing everything backwards. It doesn't make sense to the people, and we don't want to be marketed to.

MS. SHANKMAN: You seemed to be talking to me, so I wanted to just clarify. Okay. I think that that is why we're here. We have not designed the study. We've brought the issues out and we want you to make those comments.

I think other people suggested that we use -- they used the term obsolete, but I don't know what that means. If it's a cask that meets our standards, that would be certificated now and could be used to transport spent fuel, then it's not obsolete. It's a cask that could be used and we would use a cask that met our standards.

The second point you raised was a question of money, and I think I said let's take money off the table and find out what is wanted first, before we start putting price tags on it. So I agree with you. We first have to decide what's the right thing to do and then we have to find a way to either fund the money or understand why we can't fund the money.

MR. CAMERON: And, Kalynda, I want to ask you a question, too, if I could. John, today, in talking about full-scale testing, said that it would be great if it was done because it would mean a lot to the constituents that you have and talking to them and explaining risk.

I think at some point today, we heard someone say that, well, it doesn't really matter because people are going to be against it anyway.

I just wonder if you had any comments on that, either one of you or both of you. Do you know what I'm asking?

MS. TILGES: Well, since I have to leave, I'm going to grab the mic first, and if John has anything to say, he can say afterwards.

The people that I talk to, I think it would greatly instill confidence in them. The people that I meet out in the rural counties, out here in Las Vegas, the people who call my office, the people that I talk to in the grocery

store line, I hear a lot of we're going to get it anyway. It doesn't matter what we want. It doesn't matter. They're just going to shove it down our throats and there's nothing we can do about it.

That doesn't sound like trust to me. That sounds like resignation of being screwed over by someone they've been screwed over for a really long time and they've just given up all hope.

That doesn't make for a very good process. There has been enough trust lost at this point in the game that it may take repeated testing, it may take repeated honesty, it may take an overshow of what the scientific and the technical minds think is necessary.

But, again, that brings us to the point of do you want buy-in or do you really want support. If you really want support, you have to make sure they trust you, and if you want them to trust you, then you're going to have to really prove it to them, because you've not done so in the past. And when I say you, it's a collective you for all government agencies that have to do with this project.

They've been -- as you can see from the compensation bills that are in Congress now, they have been lied to in the past and there is no reason to think that this is just not another compensation bill yet to be.

So that's what I have to say about it. I have one

more thing I wanted to add before I leave, is that I don't want everybody here to take the lack of the public being here as a disinterest. I take it as a lack of advertisement. You're really good at advertising how good this is going to be for us, but when you put a little tiny blip in the newspaper two or three days before this public hearing, no one is going to see it.

I understand there's no money for coffee from the government. Okay. But in an issue as important as this, as I told Chip today, PSAs over the radio and television cost nothing. Blips on the news cost nothing. I'm Nuclear Issues Coordinator for Citizen Alert here in Las Vegas and I didn't know this was going on. Not everyone has access to the internet, not all public people have the time to dig through the Federal Register or the state's web sites to find these meetings.

If you want support, if you want them here, you have to go to them and let them know you're here and willing to work with them, and that means by all methods, radio, television and newspaper, on a repeated basis.

MR. CAMERON: And I would probably -- I don't know, John, if you have anything to say about the question that I asked. I think maybe Kalynda said it all.

But we try to do our best on notification, but we can always do a much better job and I think you've given us

some suggestions.

And we're going to go right over here, right after John.

MR. HADDEN Hopefully advertisement can be better in the future, and this has been a common theme. The only follow-up comment I had as far a the testing, as I said before, I think the criticism is that sometimes, well, no matter what we do, no one is going to trust it, and I don't think that's true.

I think what has to be, as meaningful, as I said before, the testing has to be meaningful. It can't just be something that doesn't connect to anything, because otherwise, like, okay, that was fine, but how does that connect to the regulations, how does that connect to the modeling process, how does that connect to the real world.

As long as I think it really does do that, then I think it is meaningful and organizations like Citizen Alert will say, okay, well, that makes sense.

That's something we can explain to the constituencies, as well. We can pass that on. We can support that if it does one way or another.

So I think that's the key issue, meaningful.

MR. CAMERON: I think that is important for all of us, though, to hear that issues like testing and scientific verification can have an impact. Yes, sir?

MR. FRAGOSA: Good evening. My name is Willy Fragosa. I'm a concerned citizen. I feel like I speak for many different people. And, once again, I feel disappointed in coming to a meeting in a place like the casino here, when instead we should be at a community building somewhere, where the real public is.

This is not a place where your real citizens are going to just be here. This is a place for people to come and -- it's a resort. You may be very comfortable here, but where is the public that this is supposed to be tuned into? I feel ashamed for this.

This is really a shame. You spend a lot of money, but who does it reach? Yourselves, again. I've gotten a lot of realities and a lot of different things with nuclear issues and a lot of times, we speak to ourselves, just like here.

I don't know what the answers are on that. Perhaps you could spend a little time in outreach and maybe not so much on verbiage.

I come in here and I can understand, I've been educated somewhat, I can understand, but it's like why talk this way? Why can't you just be plain and simple and just really communicate?

You keep speaking this way of like you're in the lab. You're not. I'd really like to be at one of these

gatherings, information gatherings and really be informed and feel like something really is happening, for myself, and my truth is that I don't want to see any transportation at all.

The people that I work with, we would like to see it contained on-site, no more created. I understand the forces of politics and living and necessity, I guess you could say. But, you know, I mean, this is terrible timing. There's a convention going on, there's a lot of different things going on, and I don't know if, once again, this is like timed in some way, but many people that would like to be here, it's not possible.

In Pahrump, I'm sure you'll find the same. You can consider those types of things when you look at the calendar and you see what's going on. I am part of this process, but I am really interested in what's going on in that part of the world, also.

It ties in exactly with what is supposed to be going on here. This is supposed to be the process where the citizens really become involved with you to carry forward what's best for all and not just the vested interests, because we all have to live in this world. Each one of your kids, grandkids, all those tourists out there, we all have to live here.

I'd say that here I am and I feel like I represent

that last drop of water, that last bit of dirt that's still pure, and where are we going? Think about it, please. When you're in your lab, when you're at your computers, think of real life, take a moment.

Go back to maybe a childhood time, a time when perhaps you really felt a connection with this earth. Think back. Each one of us has had that experience. Draw on that to make your decisions and to do what's right for life, because that's life speaking to you.

Not so much here, in some of the -- we get lost in the words and it leads to all kinds of tunnels, especially with these scientific terms, that really the general public won't understand.

What we do understand is that it's complex and it's a threat, and I would like to see some real progress. I've been around some of these talks for a while and, once again, I'm still hopeful that somehow something will be pulled out that will be of real value to life.

Thank you.

MR. CAMERON: Thank you. Thank for those heartfelt words. On your first point about meeting in communities, we need to keep doing a better job of outreach. But I think I could speak for the NRC, at least that if you have community gatherings where people, membership are together, if you would invite the NRC to come there and sit

down and talk, I mean, we would be glad to consider that. So that's another way to look at it, too.

We just don't want to connect through these formal meetings. So that's something to think about.

Anybody else have some comments for us on any of the issues that we were talking about? I know we have some guests from DOT who might not perhaps get involved in these particular areas, but do you have anything that you'd like to follow up on, Jackie or Pat?

MS. GOFF: Jackie Goff. I'm Program Director in the Office of Inspector General, DOT. So we're really looking at this issue and I will just make this an open invitation. Kevin and Mike know us, but if any of you, on any facet of this, from the DOT perspective, we are doing an audit, which I think is going to end up to be some sense of a blueprint for the Department of Transportation, of what it should be doing as a whole, not just its pieces from FRA or RSPA or Coast Guard, if it comes in from the coast, the lady was talking about what's coming in from Hanford.

We actually this week have some of our team at Hanford. We're going to be going to Savannah River. We're looking at all aspects of the transportation.

You're obviously concerned with Yucca Mountain, but we've been to INEEL, we've been to WIPP, we're looking at not low level and not military, but we're looking at the

transuranic and then the issues that you have of the spent nuclear fuel.

So if there is anything that you think would be helpful for us, if you would forward that to us. My only concern is that DOT, as representing DOT globally, has not been much of a player in the last five to seven years, as this has been NRC routing their issues, DOE routing their issues, and only once it gets on the highway, then we'll worry about the DOT issues, the inspection and the safety.

Yet, you have the Secretary of Energy agreeing with the Governor of Missouri that Interstate 70 isn't safe enough to have something travel there. That, to me, with all the money that comes out of DOT for mega projects, is an issue.

If it's railroad crossings, it's DOT and it's an issue. If it's the safety of a bridge in a routing, in a segment, it's a DOT issue.

So my concern is that we not get too much further along and we have DOT representatives speaking globally up there, not sitting back here, and that we are full players in not waiting until the EIS comes into comment, but perhaps have something to say as it's developed.

So I just throw that out, but that's where we're going in the next several months. We would be happy to have you all educate us further.

MR. CAMERON: Thank you, Jackie, and glad that you're here. I have to, for the NRC, again, thank the Department of Transportation representatives who, over the past year, at least just in my working on this, who have helped us out with the meetings and been up front with us.

But I guess the one question I have for you is do you think, as a result of your audit, that maybe DOT will be more assertive? I'm not making any judgments about whether they've been assertive or not, but more assertive in perhaps doing their own public meetings out here and listening to the public in terms of what their issues are?

MS. GOFF: As we all know, it's going to be an election and a transition. The only thing I can promise for the DOT is once we're done, they'll be more informed. After that, as for everyone, it's a policy decision. All the OIG does is usually give program recommendations back, whether it's a specific agency or sub-component. So I wouldn't even fathom a guess.

MR. CAMERON: Okay. Well, maybe, would you entertain some questions if people -- does anybody have a question for the people from the DOT, IG, Inspector General's Office? Just tell us your name again.

MR. DIRKMAAT: Pete Dirkmaat, DOE Idaho. I've been involved in the FR shipment through California and the decision of on Missouri, go through Illinois, it just

happened, and I think you bring up -- and we've got West Valley shipment coming next summer, which will be a big shipment.

I think you bring up a real good point, though. We have to have enough information, however we do it, that the politicians that have to lead the citizens in the various jurisdictions have to have sufficient information to defend their actions.

Now, what happened in Missouri really didn't have a lot to do about the condition of I-70. It had a whole lot to do with who was running for Senate in that state. And it has bothered us a lot about how that whole mechanism happened, because on a technical basis, you can do this. But we deal -- and these shipments, these FRR shipments and now the West Valley shipment and other ones coming along, we deal in the realm of politics and we have to have sufficient information to go to the decision-makers in the various jurisdictions, whether it's the county sheriff in Elco, Nevada or the Governor of Missouri, wherever, and be able to provide clear information to them that they can reach a decision whether it's good or bad for their citizens.

Then they have to, of course, be on the firing line when the citizens get interested.

And I think that's an important part and that's why I said earlier full-size cask testing. I've been in the

position of trying to fend something less than that and it doesn't wash.

They don't go out and test one-third-scale cars before they put the cars on the market, and everybody knows what the car makers do. They're not perfect when they get done, but people have some confidence in the safety ratings the government gives them after those crash tests happen.

So I think you've got to look at it from not just the technical aspects. I think those are easy, actually. It's the persuasion part of it that has to be looked at DOT has helped us a lot in the last couple of years.

I don't know if any of you follow the rail shipments, but the rail shipment from California to Idaho a couple years ago was done as if President Clinton himself was on that train, same kind of track checking was done. We had to have trains ahead of the real train.

I think I counted 22 additional things that we had to do that were more than required by the law and the regulations in order to make that shipment. It was helaciously expensive. It cost a lot of money to get through there. I'm the one that distributed the money for that thing. But we got through it and we got through it safely.

But these are all things to consider, because as shipping picks up in frequency, you're going to have more

and more of these situations where people need to be convinced that it's safe and they hear -- it's easy for them to hear the negative side of the story all the time. It's important for us in the community anyway to figure out how to attack those concerns, do whatever we can in the technical sense to put them to bed, and then have the public interactions to help them at least understand what it is we're doing and why they can sleep at night knowing that a train might be going by a mile from them and they don't have to worry about it, because I see some real fear in the public, in these public meetings that I've been to.

Thank you.

MR. CAMERON: Thank you. Do we have a follow-up to those remarks or to Jackie's statement? John?

MR. HADDER: John Hadder. Just a thought that occurred to me is that in pursuing this kind of work, I think it's important to really take that conservative approach, and I mean it in a way of saying think of yourself as not being in a position of I believe this is safe already. Start from the position of assuming maybe that it's unsafe.

So I guess my concern is that a lot of times, we develop confidence around something, we make inherent assumptions that we're not aware that we're making.

So I think we have to be cautious that we don't

take the appraoch, that an approach is not taken that let's just find the argument that will convince the public.

Let's rather take the tact of, well, I don't think it's safe either, so we need to do this, this and this.

So I think we have to be careful with that, because we have seen, there's a history of disasters that revolve around those confidence assumptions and I think that the downside of it is the results could be catastrophic, if there was a severe accident, it could be -- that's always out there.

So let's be prepared to not be over-confident and really appraoch it in a proper conservative, and I would say that's how good science is supposed to be, because looking at it from a scientific perspective is to cast out immediately and fend it off.

Thank you.

MR. CAMERON: Thanks, John. Anybody else have a comment, question at this point? Ann?

MS. BEIER: I was wondering if somebody from NRC or Sandia could speak a little to how external contamination of casks happen? For example, in May of 1998, there were shipments to the reprocessing plant in France, which the casks were found to have external contamination. It was quite controversial.

I never learned the reasons for that. Also, I was

wondering if you could speak to weeping, how bacteria have been found in the wet ponds and they get on the outer shells of the rods, not the casks, and potentially could corrode the metal.

MR. CAMERON: We have two questions, one on external contamination and one on weeping. We're going to go to John Cook for starters on both of those issues.

Did you understand Ann's questions and possibly have heard about the external contamination in the French example?

MR. COOK: I believe the cause for the contamination of the French packages, it was in how they were handled, in that those packages are handled near a water environment. And if you get water on the external surfaces of the cask that have radioactive material in them, that material can dry out on the surface of the cask, so it becomes contaminated.

This happened over a relatively large period of time there and eventually that contamination was discovered. Some of the casks had been shipped repeatedly in this condition, so that some of the contamination had, in fact, fallen off of the cask and had built up on some of the rail conveyances that were used to ship these casks back and forth.

Once that situation was finally discovered,

appropriate measures were taken so that in the future, those parties that were loading the casks were much more careful about following the applicable limits that are in place for contamination, such that shipments made currently are within the acceptable limit of contamination that applies to all packages.

With regard to the -- I guess I'd have to ask again about the second question. That one I'm not quite so sure about.

MR. CAMERON: What causes weeping, what is known as weeping?

MR. COOK: In the radioactive materials sense of weeping, it goes back to this contamination, in that the contamination can appear to be fixed at the time the cask departs a facility. That is, if you were to take a small piece of cloth and rub over the surface of the cask, the contamination would stay fixed to the surface of the cask, but during some transports, this contamination, which is fixed at the beginning of the shipment, becomes loose during the shipment and this process of contamination which is fixed at the beginning of the shipment and becoming loose during the shipment is called cask weeping, but this is about -- in this term, anyway, this applies to radioactive material contamination becoming dislodged, if you will, during the shipment.

I'm not quite so sure about the bio -- I'm not sure about the other part of that you mentioned with respect to a biological aspect to it, though. But that's what cask weeping is in the radioactive sense.

MR. CAMERON: Thanks, John. Ann, was there another part to that? Did that answer your question?

Does anybody else have anything to add either on the external contamination or the weeping issue? The relationship to issues such as external contamination and weeping, these are NRC. This would apply to things that NRC had jurisdiction over. Do you understand that?

MS. SHANKMAN: John, when something is shipped, it has to meet certain standards to be shipped. But are there also standards for receipt of packages, when packages arrive? If you'd explain that a little bit.

MR. COOK: What Susan is referring to are requirements in our regulations that when certain packagings are received by our licensees, they need to be surveyed both from a radiation level standpoint and a contamination standpoint, to see whether the packages are in accordance with applicable regulations.

So there are, under certain conditions, requirements for receipt surveys on these packagings.

MR. CAMERON: Okay. Why don't you add that punch line for it?

MS. SHANKMAN: What I'm trying to say is we have standards for when it leaves. This is in counterpoint to the French experience. We also have standards for when a shipment is received, so we would know if there was a greater contamination at the end of the shipment.

Because if I were you, I would wander, well, if it weeps, who knows if it weeps, and I guess John has the degree in health physics and I'm just -- I'm a manager. So anyway.

MR. CAMERON: Bill?

MR. LAKE: Thank you. Just to add to the confusion a little bit, I think you do have to understand that weeping, and I think you do, but just to make sure everybody does, weeping just occurs at the surface. It's not contents of the cask weeping out. It's only a surface phenomenon when you put a cask in a pull to load it, you pick up some contamination.

And different environmental conditions can cause that fixed material to become unfixed and that's when the so-called weeping occurs.

MR. CAMERON: Thanks for that clarification, Bill. Kevin?

MR. BLACKWELL: I may be stating the obvious here, but I'm going to state it anyway, because just for clarity, in case some folks in the room might not be aware.

The NRC, of course, has requirements for their licensees regarding transportation, in addition to the packaging and loading and everything else.

I want to touch on this from the aspect of someone who may not be an NRC licensee. The DOT regulations also cover external contamination and radiation level limits for packages and transportation. So don't get confused, don't want anybody thinking that these rules only apply to shipments of packages being made by, to or between NRC licensees.

It may sound kind of obvious, but I thought it should be stated anyway.

MR. CAMERON: I think it's good to state that, because some of the concerns that Western Communities have are with non-NRC jurisdiction shipments.

Anybody else have a point they'd like to bring up about any of this? Since we have, it seems, the luxury of being able to address some of these issues or answer questions on some of these things. Yes, John. I knew I was going to get you.

MR. HADDER: Why not. I just wanted to -- I guess I just wanted to -- I think I may have stated this before. I just want to make sure, though. The package, the report that we discussed today, I guess I'm kind of -- I have a concern about the emphasis on severe accident conditions

precluding the possibility that it could be used to examine licensing criteria and that sort of thing.

I just wanted to make sure that concern was really out there. I understand the need to look -- I understand why the severe accident scenario is a piece of it, to sort of complete the picture, to get kind of an upper bound on what can really happen, I think that's really important.

But it seems to me that out of that study can also come valuable information in examining what we use to license around it.

So I just wanted to make sure that every opportunity is made use of to examine that. Anytime you do any more testing, it seems like the opportunity is there.

MR. CAMERON: Good. And I think I'm going to ask Rob Lewis from the NRC to just tell us a little bit about what the scenario is going to be for the Sandia study. What is going to happen with the comments that are going to come in, how they're going to come in, and then what Sandia is going to do with that and when there actually might be some testing, for example, if that's what there is to be, and when the whole thing will be ready for further use.

MR. LEWIS: Sure. I can try to remember all that. John, I just want to say that we agree with you that certainly we can use what we're doing here to focus our efforts on what are the most important to safety and how we

do risk studies and in how we do cask certifications.

So that is an important part of what we're trying to accomplish with this project.

Now, as far as the next steps in the package performance study, we have the issues report published. We did that on June 30th. These meetings are to focus people's attention that the issues report is out there and we're asking for feedback on it.

We have asked for -- in the issues report, in the first chapter, it asks for comments by September 29th. That's not a drop-dead date or anything. We're just trying to keep the process moving.

So if comments come in after that, we certainly would consider them, as we could.

The next step would be for NRC to take back the information we get from Sandia, what's in the issues report, and from the public as far as feedback on the issues report. We may need to revise the issues report, we may not need to revise the issues report. We might just want to supplement it by using an addendum or something.

But as soon as we do that, NRC has to decide, through a contract, what the next phase of the package performance study will constitute and by that, I mean we would -- we'll get a proposal from Sandia, we'll accept the proposal using the government contracting process, and that

proposal will outline the scope of work that will be done for the rest of the package performance study.

The second phase would be to plan for the tests. We'll continue the public interaction process during that. The third phase would be to conduct the test and analysis. We would actually do the analysis before we did the test, because we want to show that we can appropriately do analysis.

And the fourth step, fourth phase of the project would be to document what we've done in both a technical report and a publicly consumable, understandable version.

That's all going to take several years. But in the near term, what we're trying to do is get feedback, positive or negative, on the issues report. By the end of the year, we hope to have accomplished the contracting for the next phase.

MR. CAMERON: Thanks, Rob. Do we have any questions for Rob on that, on the process? Susan?

MS. SHANKMAN: I just wanted to make it clear that the process that Rob outlined, the second phase is the design of the study and I heard a lot today about people wanting to see that design out for public review, and I think we'll have to look at how we will do that.

But I think it's something that would be desirable. The selection of a contractor, I saw some people

go, you know, well, how do you know you're going to use Sandia, and I guess we can talk about that, but the NRC contracting process with DOE labs is a process that we have been using and we have not used a commercial contractor in this, because we qualified Sandia at the beginning of phase one.

So the questions were at each phase of the study, we have had an option to continue with the contract or not, and I wanted to make that clear.

MR. CAMERON: Thanks, Susan. Let's go over this direction to Idaho.

MR. DIRKMAAT: I just have a question for the NRC, because we have a lot of controversial stuff in DOE that we can't ever hardly solve, but we do use the National Academy of Sciences and National Research Council for independent review of our recommendations about what they think the path forward should be.

In fact, we just used them in Idaho for a high level waste study. We have liquid waste. We've got to figure out how to make glass or something out of it. So it takes about a year, year and a half, but we do get an independent answer that we then look at and see if that makes sense to us.

It gives the public some sense that it isn't just what DOE wants to do. Does the NRC appraoch allow these

kind of peer reviews or because you're regulators, you really can't do that? It's just a question.

MR. CAMERON: And we're going to come back to Jackie for a question or comment on that, but does anybody from the NRC want to address this? Basically Susan is indicating that, yes, we can and do use the National Academy of Sciences. In fact, we're negotiating a contract with them now on an issue called the clearance of radioactive materials, which is related to recycle and things like that.

So that vehicle is available, and I think that as was demonstrated today, I don't want people to think that there is some reason that we're not going to use Sandia either, is that they have a lot of experience, obviously, and get a lot of kudos today for the report that they did.

Let me go to Jackie first.

MS. GOFF: I just have a question. You're talking about this point in the issues for your study and then whatever you do and then deciding how involved your test will be, full destruction or something else.

But there are funding issues in there, but there's stuff moving that's not coming to Yucca. I mean, it's coming in to either side of the country and it's moving a little bit and we need casks.

I guess my question is how do you back your timeline to allow your procurement issues, to find someone

who is willing to build these things and get them ordered both in time for these movements.

MR. CAMERON: Maybe I think that the question is, and it's an interesting one, if we were going to do full-scale testing, what are the logistics, logistical issues surrounding that.

Ken, go ahead.

MS. SHANKMAN: Well, we can talk about the procurement, but the shipments that you're referring to are done by the Department of Energy and they do not fall under NRC jurisdiction.

MR. CAMERON: Let me get this on the record and make sure that we understand exactly what your question is. I wasn't sure whether it was related to the actual testing of a cask or whether it was related to transportation that's ongoing while we're doing this study.

Do you want to clarify that?

MS. GOFF: Yes. I'll clarify my confusion. My confusion is I understand there is stuff coming into the country and some of it is only staying in Hanford or staying where it hits the coast, and it's moving, at least some of it is moving short distances. That may be DOE.

NRC, if they're doing something else -- okay. The cross-country shipments are still DOE.

My point is regardless of even if it's only NRC,

what it's responsible for, if you back it out, the timeline of doing all this testing, the budgeting for it, at what point you decide the design specs that you have, are you going to have enough lead time to find someone to make this and make enough of them and are you making your decisions that they're highway or they're rail, because you're going to have two different ones.

It seems like everyone is just sort of talking about is if we have the luxury of just thinking about forever when we're going to come up with the design specs, with no idea of how long it would take for someone out there to decide this is a business worth getting into and they can get them made fast enough to be available in the quantities you need.

MR. CAMERON: I think that we're confusing testing with the actual fabrication of casks for real shipment, and I think what you're asking about is the latter question.

In other words, who is in the cask business these days and we have someone here, Bill Lee, who -- maybe you could just tell us about what the state-of-the-art is, so to speak, Bill, on all of this.

MR. LEE: Let me clarify one point. The foreign research shipments, they do get an NRC license amendment to carry that fuel as contents. The actual shipment is not an NRC shipment, it is a DOE shipment, but there is an NRC

license to it.

As far as like, for instance, the LWTs, we actually are finishing three additional LWTs right now. We started fabrication about a year and a half ago and they are just being completed within the next month or so.

And so it depends upon the need or the rush for them. And, also, to supplement some additional information on cask weeping, the loading of the LWTs for the foreign research reactor shipments, the LWT cask that actually carried the fuel coming back is not, repeat, is not put into the water. So it's loaded with a dry transfer system. So that's why it doesn't go into the water.

And, also, in addition, the casks are contained in iso containers, completely surrounded and sealed, like a cargo handling container.

Do you need anymore information on that?

MR. CAMERON: If you do, please speak to Bill Lee, who is with NAC International and was here with us today as a representative of the American Nuclear Society.

Did you have another point you wanted to make? Okay. Kevin?

MR. BLACKWELL: Dr. Shankman asked me to clarify. Anybody here not familiar with the term LWT? It's light weight truck. Not legal weight tanker or anything else that you might think. So light weight truck is what it stands

for -- I'm sorry -- legal weight. Excuse me. It's been a long day.

I'm going back, I'm going to jump back a little bit and I wanted to bring out a point that -- only from the experience I recently had. There was talk about using the National Academy of Sciences as a peer review.

I guess I want to put this out as a caution, I guess, to folks dealing with that. I was at a meeting at the Western Governors Association a few weeks ago, where there was an NAS study that came out with some recommendations and I'm trying to remember exactly what was that -- but my point here is that there were folks in that meeting who did not necessarily buy into the NAS as a body that could -- they would just, oh, well, okay, that sounds great.

So I didn't want anybody getting the impression here that when you say peer review, there's folks out there that don't necessarily believe that the NAS is someone who may always be able to be trusted or whose recommendations can be -- are without fail or without question.

So that's just a point I wanted to bring up, from a recent experience.

MR. CAMERON: Thank you, Kevin. Pat Haggerty, did you have a point that you wanted to -- did you want to raise a point? You don't need to. I just thought that you had

your hand up before.

MS. HAGGERTY: I'm Pat Haggerty, with the DOT OIG. I did have some thoughts during this. Number one, there are kind of two issues here that we're dealing with. One is the development of regulations for casks for safety, and then the other is public confidence.

Now, I do believe that you can use testing to accomplish both of those, but my question to the citizens' advocacy, what is it going to take for the public confidence to be met. Are they willing to hire an independent testing agency or something to verify what the NRC is coming up with?

MR. CAMERON: Well, I'm looking at you, John. I don't know. We'll let you go again. Could you tell us your name, please?

MR. HECHANOVA: Tony Hechanova, I'm with the University of Nevada-Las Vegas, research scientist. I'm really here as a public interest.

I guess I kind of want to answer the question that was just asked. I deal a lot with actually teaching community classes, doing a lot of outreach, and I think the main thing actually is transparency. I answer a lot of questions. We do transportation studies. None are for the NRC, DOE or DOT.

We've done it for the Town of Pahrump. They've

given us the scenarios they were interested in. And their scenarios are very different from your scenarios, but that's to be expected, and we explain our method of solution. It's very transparent.

They set up the scenarios, so this really was their study. They just used the university to help answer those questions. That's sort of how we see the role of the scientist here and the local community.

I think the other aspect that is clearly missing here, though, is also responsiveness. So I think transparency and responsiveness. I don't think having -- I think there are about five of us who really were kind of from outside of the group, was really bringing in a lot of the public comments.

I can tell you a long list of other concerns that I hear from community people, as well. Even looking at things as terrorist actions and things that are not necessarily accident scenarios, but, say, advertent human intrusions and things like that.

So there are all kinds of things that are always brought up and I think the main thing is, one, you need the people here to voice those, give those concerns, and then the NRC, if they're really serious, needs to be responsive to those concerns, even though it may not necessarily affect the regulatory criteria.

But I think one of the things earlier said was one of the more important things, is probably right up front, you needed to tell us what the regulatory criteria is and what its basis are, and if you can go to the extra regulatory things, I have a feeling the public a lot of times is interested in some of those extremes.

MR. CAMERON: Okay. Thanks, Tony. I guess in fairness to the NRC, and this may be a transparency problem, that this was a second stage of a public process that began last year, where we did invite the broad spectrum of interests that are affected by this for a real focused roundtable, and issues such as you brought up were examined, were brought up and examined in the Sandia report.

Not inadvertent intrusion, I know that's on something else, but some of the transportation issues. But I think you have a good point. Even though we did a roundtable as a continuation, we probably could have -- maybe we could have laid out what the starting point for the regulations were.

MS. SHANKMAN: Several of you have brought up the concept of how to reach -- more outreach with public concerned groups and citizens, and we did have our meetings in November in the Henderson -- what was it -- the Henderson Convention Center and for this meeting, we sent 364 letters to anybody who signed up at those meetings.

So when you say are we serious, I think we're very serious, and if you have any ideas how we can reach more people, we'll be happy to do that.

I know you and the lady who had to leave are on our mailing list and received all the material for this, and I guess I wish you had called and said don't have it here, have it someplace else, in time for us to change it, but I don't -- I would just suggest that if we're having it in a place, that you think there is a better place to have it, with advanced information, we could try to do that.

MR. CAMERON: Tony, another comment? Sure, go ahead.

MR. HECHANOVA: I also agree that we do have a number of ways, the university has several hundreds on our mailing list, as well, people interested in some of the nuclear issues dealing with the test site, as well as Yucca Mountain and other issues.

I think the local DOE operations office has a couple thousand on their mailing list. So it shows people have shown interest in the past. One thing I was thinking, it might be good maybe to even try and get some of the groups, the local groups here involved and maybe getting some ownership for doing some of the outreach, maybe have John and his group, Willy, myself.

We know certain people who are very interested in

these types of issues. With a little bit of lead time and maybe even a little bit of ownership, why don't you guys have some group meetings and then bring everybody to this meeting type thing. There might be some ideas.

MR. CAMERON: That's a good idea, and I know that Western States Legal Foundation has helped us in the Bay Area to do exactly that, where we actually planned the meeting with Western States and also Tri-Valley Cares and some of the other groups and they helped us to make sure that people knew about the meeting.

We just need to make sure that we follow all these good models and everything that we do.

John?

MR. HADDER: I just wanted to also respond to the question that you had asked regarding what does it take for public confidence. I think Tony addressed it in a very general way, transparency, but I guess I just want to be a little more specific, from our point of view at Citizen Alert.

And that's when I mentioned in the roundtable circle, I used the analogy of the triangle, and that to me is really what will define it, because the regulatory standards that are out there are kind of -- are not -- are esoteric to the public. You have these various tests. Well, how does that connect to what can really happen?

Is there a way to demonstrate that connection between the regulatory tests and actual accident scenarios? For example, if there is a drop of a cask in a ravine somewhere, it hits rocks or whatever the situation, how do the forces developed in that, how are they connected to the regulations.

It doesn't necessarily mean they have to be the same, but what is the connection there. So that's one understanding.

And a lot of what's also based on the process is the modeling system. Again, this is this transparency. Can you also show that your models are predictive in both scenarios, when you do your modeling and you have a prediction on what are the forces developed, what are the stresses, is that what you also measure in the experiment, is that also what you see in real life.

So I see it as three things that need to be connected. There needs to be communication between all three of those things to understand the basis for the whole picture.

Once that is developed, I think then the public can understand what the heck the NRC -- what we're talking about and there is an avenue there for developing confidence or at least creating the best regulations possible, which is ultimately what we should be after.

MR. CAMERON: Okay. Thank you, John. Thank you, Tony. Does anybody have anything else to go into before we close up? We don't need to close up. I was just getting to feeling that we were near that. Go ahead.

MR. FRAGOSA: My name is Willy. I just wanted to thank people, also, though. I don't want to forget that part of it, that really you are working for the public good. We in the public don't often get a chance to say thank you. So I'm going to say it now. Thank you.

MR. CAMERON: Very nice. Thank you, Willy. Anybody else for comments? Well, thank you all for coming out and thank you for all the advice and suggestions that you have given us tonight.

We're adjourned.

[Whereupon, at 8:30 p.m., the meeting was concluded.]